

# Identifying the facilitators and processes which influence recovery in individuals with schizophrenia: a systematic review and thematic synthesis

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Manuscript for Recovery

**Title: Identifying the facilitators and processes which influence recovery in individuals with schizophrenia; a systematic review and thematic synthesis.**

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## **Abstract**

### **Background**

Research is required to better understand the psychosocial factors that influence the recovery of individuals with schizophrenia .

### **Objective**

To conduct a systematic review and thematic synthesis and identify the factors which influence recovery.

### **Methods**

Major electronic databases were searched from inception until February 2014. Qualitative articles were included that considered the concept of recovery from individuals with schizophrenia, their caregivers or health care professionals. Methodological quality was assessed and studies were thematically synthesised.

### **Results**

Twenty articles involving 585 individuals with schizophrenia, 298 primary care givers or close sources of support and 47 health care professionals were included. The results identified and detailed the psychosocial factors and processes that influenced recovery. The factors which promoted recovery included: (1) adjustment, coping and reappraisal (2) responding to the illness (3) social support, close relationships and belonging. The factors which challenged recovery included: (1) negative interactions and isolation (2) internal barriers (3) uncertainty and hopelessness.

### **Conclusion**

Health care professionals and researchers will benefit from a greater understanding of the psychosocial factors which influence recovery for individuals with schizophrenia. Implications are discussed within the text.

**Key words:** recovery, schizophrenia, well-being, qualitative, synthesis

## Introduction

Traditional medical definitions of recovery from schizophrenia have emphasized complete (or almost complete) remission of mental health symptoms and impairments, as opposed to partial improvement in symptoms (Law & Morrison, 2014; National Institute for Health and Clinical Excellence, 2010). Conversely, many service users identify a more subjective definition of recovery (Slade et al., 2014); reflecting a process where an individual's social identity/ies are developed and reconstructed (to some extent suffused with the stigma of the 'illness identity'). This definition has now been widely adopted by service providers and supports increased participation in life, social connectedness, empowerment and hope (Leamy et al., 2011; Pitt et al., 2007). Recovery is commonly experienced as a journey for the patient, involving struggles, phases, and life-changing experiences. Significantly, recovery is helped or hindered by personal, situational and environmental factors across the patient's journey (Leamy et al., 2011).

Whilst research has conceptualised recovery in individuals with schizophrenia, the literature is less clear about what specific factors may help or hinder recovery. In order to promote recovery and care for individuals with schizophrenia, greater understanding of such factors is required. A recent Delphi study (Law & Morrison, 2014) used expert patients to identify statements linked to factors promoting or hindering recovery. A thematic synthesis (see supplementary file online) of these statements identified that the majority (all but three statements out of how 43 statements) represented psychosocial factors. However these statements, in their current form, are not specific enough to be used in clinical practice. For instance, the statement "feeling part of society rather than isolated" does not indicate how this may be achieved. Thus, further in-depth study of the internal and environmental factors that influence recovery is required and may be best explored through a qualitative synthesis of data. This type of analysis generates a range and depth of perspectives that can be brought together across different contexts (Tong et al., 2012).

Extensive previous qualitative research has explored perceptions and experiences of recovery from schizophrenia, considering different perspectives, including health care professionals (Ng et al., 2008a), family members (Noiseux & Ricard, 2008), care givers (Saavedra et al., 2012) and patients (Kaewprom et al., 2011). This literature contains information relevant to identifying factors which influence recovery, and synthesising it would help to unpack the conceptual statements identified by Law and Morrison (2014), generating a more pragmatic understanding. The aim of the current study was to undertake a qualitative thematic synthesis of the recovery literature and to identify clinically relevant factors and processes that influence recovery.

## 2.0 Method

A systematic review and thematic synthesis was undertaken in 3 phases: (1) a systematic search of the literature, (2) critical appraisal of identified studies, and (3) *thematic synthesis* of research to reveal over-arching and emerging themes regarding psychosocial factors influencing recovery in individuals with schizophrenia

### 2.1. Phase 1: Systematic search and eligibility criteria

A systematic search of major electronic databases by the primary author was conducted from inception until February 2014 including: AMED, CINAHL Plus, Medline, Embase, PsychINFO. The key search terms included; recovery OR empowerment OR optimism OR hope OR identity OR self OR social role\* AND schizophrenia OR schizoaffective\* AND qualitative OR mixed methods AND experience AND understand OR knowledge OR attitude AND interview OR focus group. In addition, grey literature was obtained through hand-searching of the included articles' reference lists, key journals. Two authors (AS/BS) screened the titles of all identified articles. An article was included when it was considered that it satisfied all eligibility criteria considered within the domains of the SPIDER (i.e. an acronym for sample, phenomenon of interest, design, evaluation, result type) search tool (Cook et al., 2012). This acronym identifies the focus and eligibility of included studies for qualitative evidence synthesis and is used in preference to the PICOS (patients, interventions, comparator, outcome, study design) acronym for qualitative evidence synthesis.

Sample: Individuals with a diagnosis of schizophrenia or schizoaffective spectrum of disorders (DSM-V, ICD-10).

Phenomenon of interest: The focus of the article included recovery from schizophrenia. Articles were excluded if they did not identify the psychosocial factors influencing recovery. These factors were represented by thematic synthesis of the results section from Law and Morrison's (2014) study and include: (a) social support (b) adjustment, coping and reappraisal (c) understanding and

responding to the illness (d) personal motivation and responsibility (e) meaning and purpose of living and well-being.

Design: Qualitative design using methodologies which analysed multiple cases including phenomenology, grounded theory, case series or ethnography. Case studies, reflective pieces, auto-ethnographies, quantitative research, systematic and other types of reviews, books, thesis or conference proceedings were excluded.

Evaluation: Interviews or focus groups documenting the experiences, views or attitudes from users, health care professionals or carers, and were published in English

Result type: Only qualitative articles were included.

## 2.2. Phase 2: Critical appraisal of the included studies

The primary author used the Consolidated Criteria for Reporting Qualitative Studies (COREQ) (Tong et al., 2007) to assess the quality of the included studies. The COREQ contains 32 items which identify the essential content expected in qualitative research studies. It was derived from 22 previous checklists and contains three domains: (1) research team and reflexivity (8 items centred around the interview team, their experience and the relationship between them and the participants), (2) study design (15 items considering the methodological orientation of the study, the process of how participants were identified and approached, the sample size and non-participation, the setting and interview guide, details of the data collected, the duration of interview, the saturation of the data and other aspects considering 'trustworthiness' of the data collected), and (3) analysis and findings (9 items identifying the coding process, analytic procedures and the presentation of findings). The COREQ is designed to provide clear guidelines to enable a 'gold standard' approach in reporting qualitative research. A summary score was calculated from each of the three COREQ domains, as well as a total score. The score is based on each question either being reported correctly (scoring a point) or not (scoring no point), with a maximum possible score of 32.

## 2.3 Phase 3: The thematic synthesis

The primary author undertook a thematic synthesis of the included studies in three stages: 1) coding the text by hand, 2) developing descriptive themes and 3) generating analytical themes (Thomas & Harden, 2008). A thematic synthesis of statements drawn from Law and Morrison's (2014) study, created a-priori structure for headings of the main two themes and some sub-themes (see supplementary file for themes used to structure analysis). An audit trail of the thematic development is available from the primary author.



### **3.0 Results**

#### *3.1 The systematic search*

In total 20 articles (Balaji et al., 2012; Corin, 1998; Corin & Lauzon, 1994; Davidson et al., 1997; Dilks et al., 2010; Eisenstadt et al., 2012; England Kennedy & Horton, 2011; Forchuk et al., 2003; Jenkins and Carpenter-Song, 2005; Jenkins et al., 2005; Kaewprom et al., 2011; Lam et al., 2011; McCann and Litt, 2004; Ng et al., 2008a; Ng et al., 2011; Ng et al., 2008b; Noiseux & Ricard, 2008; Romano et al., 2010; Saavedra et al., 2012; Tweedell et al., 2004) were identified from 18 data collections within 8 countries. A PRISMA (Moher et al., 2009) flow diagram (see figure 1) provides full details of the selection process.

INSERT FIGURE 1 AROUND HERE

Across the studies, 585 individuals with schizophrenia, 298 primary care givers or close sources of support and 47 health care professionals (either in training or fully trained) were represented. This included individuals within the following age ranges; 23-41 years for individuals with schizophrenia, 39-50 years for primary care givers and 37-41 years for health care professionals. Participant characteristics are detailed in Table 1.

INSERT TABLE 1 AROUND HERE.

#### *3.2 Critical appraisal of studies*

The COREQ (Tong et al., 2007) revealed that one study (Eisenstadt et al., 2012) was fatally flawed (a methodological weakness that compromised trustworthiness; Dixon-Woods et al., 2007) and could not be used in the synthesis. Table 2 provides full details of the appraisal.

INSERT TABLE 2 AROUND HERE.

#### *3.3 The thematic synthesis*

Two major themes were identified: factors which promote recovery and factors which challenged recovery. Findings were only included where they were supported by at least three studies. For full details of findings and expanded results please see the supplementary online tables (A & B).

### 3.3.1 Factors which promote recovery

Three sub-themes were identified as factors which promoted recovery for patients. These included: (1) adjustment coping and reappraisal (2) responding to the illness (3) social support, close relationships and belonging.

#### 3.3.1.1 Adjustment coping and reappraisal

Four strategies were identified by patients including: (1) the need to accept their illness is real and has occurred. Acceptance has been considered a factor which enabled individuals to change their perspective about the illness (Balaji et al., 2012; Dilks et al., 2010; Kaewprom et al., 2011; Ng et al., 2011; Ng et al., 2008b); (2) Patients required time to navigate, negotiate and understand who they are and how they see themselves, this meant considering time (previous and present experiences and future expectations), and making comparisons with others and learning from reading (Corin & Lauzon, 1994; Dilks et al., 2010; Jenkins & Carpenter-Song, 2005; Kaewprom et al., 2011). It also meant taking on board the effects of medication (Dilks et al., 2010; Jenkins and Carpenter-Song, 2005; Noiseux and Ricard, 2008). References to the past self was useful as it could be associated with positive identities, skills, vocations, traits and responsibilities (Balaji et al., 2012; Davidson et al., 1997; McCann & Litt, 2004; Noiseux & Ricard, 2008); (3) Individuals tried to manage their appearance or self-presentation to others by de-emphasizing their illness because of worry about being rejected or ridiculed (Lam et al., 2011; McCann & Litt, 2004; Ng et al., 2008a). This helped to fight and prevent stigma associated with the illness (Corin & Lauzon, 1994; Dilks et al., 2010; Jenkins & Carpenter-Song, 2005); (4) Individuals identified the importance of choosing to be more hopeful and having a desire to change their circumstance as essential in recovery (Balaji et al., 2012; Jenkins et al., 2005; Kaewprom et al., 2011; McCann & Litt, 2004; Ng et al., 2011; Noiseux & Ricard, 2008; Romano et al., 2010) transforming a view of their illness as life enhancing (Lam et al., 2011; Noiseux & Ricard, 2008; Romano et al., 2010).

### 3.3.1.2 Responding to the illness

Three strategies were identified: (1) participants identified that at times medication was the only act which could assist with symptom remission (Davidson et al., 1997; Jenkins & Carpenter-Song, 2005; Jenkins et al., 2005; Ng et al., 2008b; Noiseux & Ricard, 2008), so being able to see recovery as co-existing with medication was important (Kaewprom et al., 2011; Ng et al., 2008a; Ng et al., 2011; Ng et al., 2008b). Medication adherence was essential for preventing relapse ((CRD), 2009; Kaewprom et al., 2011; Ng et al., 2008a; Ng et al., 2008b) and it was important that others (family members) took an active role in supporting this (Balaji et al., 2012; Forchuk et al., 2003; Ng et al., 2008a) and that patients were willing to try medications (Forchuk et al., 2003; Jenkins & Carpenter-Song, 2005; Ng et al., 2008a); (2) Individuals had to take responsibility to improve their own health habits like smoking, exercise and alcohol consumption (Balaji et al., 2012; Jenkins & Carpenter-Song, 2005; Jenkins et al., 2005; Kaewprom et al., 2011). (3) Patients coped with the negative symptoms of the illness by being occupied, distracted and busy (Balaji et al., 2012; Davidson et al., 1997; Jenkins & Carpenter-Song, 2005; Lam et al., 2011). Effort was needed to overcome the symptoms that interfered with social interaction through coping with and overcoming thoughts, including; having to distract themselves from symptoms, holding and continuing a normal conversation despite symptoms, recognising that thoughts they had did not represent reality, and understanding that normal interaction is possible. The processes and strategies for overcoming thoughts meant engaging in normal behaviour was challenging (Corin & Lauzon, 1994; Dilks et al., 2010; Jenkins & Carpenter-Song, 2005; Jenkins et al., 2005). However, it was identified that further control over the illness could be further enhanced with medication (Corin & Lauzon, 1994; Jenkins & Carpenter-Song, 2005; Jenkins et al., 2005).

### 3.3.1.3 Social support, close relationships and belonging

Three sources of social support were identified: (1) individuals valued support from friends and peers, especially if family connections were absent (Corin, 1998; Jenkins & Carpenter-Song, 2005; Lam et al., 2011; McCann & Litt, 2004; Ng et al., 2008a; Noiseux & Ricard, 2008), with friends being less intrusive, did not need to talk about illness and could be accepting of behaviour (Corin, 1998; Jenkins & Carpenter-Song, 2005; Lam et al., 2011; McCann & Litt, 2004; Ng et al., 2008a); (2) Family could provide important emotional and tangible support (Dilks et al., 2010; EnglandKennedy & Horton, 2011; Forchuk et al., 2003; Jenkins & Carpenter-Song, 2005; Kaewprom et al., 2011; Ng et al., 2008a; Ng et al., 2011); (3) An individual's religious faith could provide a sense of belonging in their community (Corin, 1998; Corin & Lauzon, 1994; McCann & Litt, 2004) and strength against their illness, which protected, guided and reassured them (Corin, 1998; Corin & Lauzon, 1994; Jenkins & Carpenter-Song, 2005; McCann & Litt, 2004; Noiseux & Ricard, 2008).

Three aspects related to the provision and value of support: (1) It was essential that individuals had access to people that would listen, accept, value and understand them (Davidson et al., 1997; EnglandKennedy & Horton, 2011; Jenkins & Carpenter-Song, 2005; Kaewprom et al., 2011; McCann & Litt, 2004; Ng et al., 2008a), as even small gestures of care could make a difference to the individuals (Davidson et al., 1997; Jenkins & Carpenter-Song, 2005; Lam et al., 2011); (2) There was a need to restore trust in relationships, because a trusted relationship had many benefits e.g., the patient could be more honest and open (EnglandKennedy & Horton, 2011; Forchuk et al., 2003; McCann & Litt, 2004); (3) Caring for others was identified as having great value, as it provided meaning in the individual's life (Balaji et al., 2012; Corin & Lauzon, 1994; Jenkins & Carpenter-Song, 2005; Lam et al., 2011).

### 3.3.2. Barriers which challenged recovery

Three sub-themes were identified as factors which challenged recovery for individuals. These included: (1) negative interactions and isolation (2) psychosocial barriers on recovery (3) hopelessness.

#### 3.3.2.1 Negative interactions and isolation

Three considerations were identified within this subtheme: (1) substance abuse (e.g., excessive drinking or illegal drug use) by others was identified by patients as having a negative influence on recovery (Corin and Lauzon, 1994; EnglandKennedy and Horton, 2011; McCann and Litt, 2004); (2) stigmatizing experiences from other people was highly prevalent across studies (Balaji et al., 2012; Corin & Lauzon, 1994; Dilks et al., 2010; England Kennedy & Horton, 2011; Jenkins & Carpenter-Song, 2005; Kaewprom et al., 2011; Lam et al., 2011; Noiseux & Ricard, 2008); (3) The process and gradual social isolation and disconnection from supportive relationships could have a severe and negative impact on individuals' recovery (Balaji et al., 2012; Corin, 1998; Corin & Lauzon, 1994; Davidson et al., 1997; Dilks et al., 2010; EnglandKennedy & Horton, 2011; Forchuk et al., 2003; McCann & Litt, 2004; Ng et al., 2008a) and relationships could change and reduce because of the illness (EnglandKennedy & Horton, 2011; McCann & Litt, 2004; Noiseux & Ricard, 2008).

#### 3.3.2.2 Internal barriers

One barrier was identified within this subtheme: (1) lack of social confidence (Corin & Lauzon, 1994; McCann & Litt, 2004; Ng et al., 2008a) where patients had self-presentation concerns (Balaji et al., 2012; Corin & Lauzon, 1994; Dilks et al., 2010; McCann & Litt, 2004).

#### 3.3.2.3 Uncertainty and hopelessness

Two aspects were reported within this subtheme: (1) Uncertainty about the unpredictable nature of relapse acted against recovery and worsened during exacerbations of the illness (Corin & Lauzon, 1994; Davidson et al., 1997; Dilks et al., 2010; Forchuk et al., 2003; Lam et al., 2011; McCann & Litt,

2004; Ng et al., 2008a; Romano et al., 2010). (2) A sense of hopelessness often ensued related to; a feeling that the possibility of a good or complete recovery could not be achieved (Corin & Lauzon, 1994; Jenkins and Carpenter-Song, 2005; Ng et al., 2008a; Ng et al., 2011; Noiseux & Ricard, 2008; Tweedell et al., 2004), the impact of symptoms on living (Davidson et al., 1997; Forchuk et al., 2003; McCann & Litt, 2004; Noiseux & Ricard, 2008), and the ongoing impact of symptoms on their daily functioning (Corin, 1998; Corin & Lauzon, 1994; Davidson et al., 1997; Noiseux & Ricard, 2008). It should be noted that the patient's hope for a cure or complete recovery, rather than purely representing a medical definition of recovery, may also reflect the need to return to previous social identities.

#### **4. Discussion**

The current review illustrates various factors which may impact on the recovery of people with schizophrenia. The current results support and enrich the results identified by Law and Morrison (2014). Importantly, the current data was able to provide further details regarding the role played by specific factors such as medication, social isolation, psychiatric identity and stigma. The results also highlighted that a lack of independently accessible activities (activities that can be engaged in without different forms of support), that provide meaning for individuals, may negatively influence an individual's life and their ability to recover.

##### **4.1 Understanding the central importance of identity**

Previous literature has demonstrated that identity is important to the recovery process (Leamy et al., 2011). The current literature has suggested that a cognitive process occurs where an individual develops an understanding of their sense of self, identified by (Chadwick, 2006) as a meta-cognitive process. It is important to consider how dominating a psychiatric identity can become and the hopelessness that is often associated with it. This is not fixed however and an individual's identity can evolve and change through positive access to different groups which in turn can improve an

individual's bio-psychosocial outcomes (Soundy et al., 2012). Clearly, this is an opportunity for healthcare professionals who can help by paying attention to the individual's past identities, meaningful activities and skills, in order to understand how recovery may be best approached for that person. Supporting clients to understand and experience the self as a fluid process that is not fixed can help to reduce shame and stigma (Chadwick, 2006) and so enhance recovery.

#### 4.2 Recognising the factors which facilitate recovery

An important role of recovery is to increase the independence of individuals with schizophrenia (Slade et al., 2014). Being able to rebuild one's life in schizophrenia may require opportunities for access to different types of experiences, which are able to provide meaning and a sense of purpose. The choice of experience may be guided by an individual's current or previous social identities, for instance belonging to different groups (e.g., athletic, spiritual, social, occupational) which provide activities, enjoyment and a sense of belonging. It may be that health care professionals consider facilitating access and promote such meaningful experiences as a process of recovery. Taking control and managing challenging thoughts were facilitating factors for individuals to continue engagement in social interactions. Part of the processes that individuals use may be similar to techniques used in therapy e.g., acceptance and commitment therapy (Gaudiano & Herbert, 2006).

Social support is one factor identified consistently by other literature on recovery, represented by peer and group support, relationships, support from others and being part of a community (Leamy et al., 2011). The current review highlights the importance of close social ties (family and close friends) within a smaller network of support that aids the prevention of relapse and enhancement of recovery. Finally, obtaining personal responsibility over one's life is important to recovery (Leamy et al., 2011). This review highlights that individuals may not be able to do this until they can actively take a more positive view of their illness.

#### 4.3 Limitations

This review may be limited by the reduction of qualitative information into themes which represented factors that could influence recovery. It is possible that this process lost some of the meaning behind the intended messages of individual articles. The review is also limited by the fact that many recovery articles focussing more generally on severe mental illness were not included and by the theoretical position and knowledge of the primary investigator who undertook the analysis. Factors relating to policy, environment and other stakeholders' (e.g., staff) perspectives were not well considered by the current results. Some individual's personality attributes such as having an ability to endure, a strong will or uncommon resolve against one's situation are important qualities needed for recovery (Jenkins et al., 2005; Noiseux & Ricard, 2008; Romano et al., 2010). The current review was not able to determine how personality interacted with the different factors which influenced recovery.

#### 4.4 Conclusion

This review has identified key factors which influence recovery for individuals with schizophrenia. The information generated may be of pragmatic value to clinicians working with patients.



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**Table 1** The study characteristics of included studies

Study	Design	Participants	Assessment, Intervention and setting	Interview Questions and Focus
Balaji et al (2012)	In-depth interviews	32 (15♂) persons with schizophrenia 42 years  38 (24♂) primary care givers 50 years Parent 17 Sibling 5 Child 4 Spouse 8 Family by marriage 4	Two sites used as sources for individuals: (1) rural (2) semi-urban.	Illness perceptions and desired outcomes, and treatment expectations.
Corin and Lauzon 1994	Phenomenological	45 male Age range 25-50 Groups based on rehospitalisation: none (n=13), 1-2 times (n=17), and 3+ times (n=15). Focus is on 28 narratives from the two groups that have experienced rehospitalisation.	Taken place in a Hospital in Montreal. Participants lived in catchment area of a hospital.	Focus on experience associated with “recovery” in schizophrenia.
Corin (1998)	Phenomenological	45 male Age range 25-50 Groups based on rehospitalisation: none (n=13), 1-2 times (n=17), and 3+ times (n=15).	Taken place in a Hospital in Montreal. Participants lived in catchment area of a hospital.	Focus on sociological processes of stigmatisation and marginalization.
Davidson et al 1997	Phenomenological / Participatory action research	12 recidivist (≥2 hospitalisations within 1 year) patients	Community mental health centre in north eastern united states.	Focus on description of experiences of being rehospitalised, the function it served in their life and the circumstances.
Dilks et al 2010	Grounded theory	6 (1=♂) Psychologists 36.6 years  6 (2=♂) patients with schizophrenia (n=3), schizoaffective disorder (n=2) and depression psychotic (n=1, used for similarities in experiences) 35 years	12 repeated interviews undertaken within an NHS trust for patients as part of a therapy session	Focus on experience of therapy.
Eisenstadt et al 2012	Phenomenology	16 (12=♂) individuals with paranoid schizophrenia (n=8), schizoaffective disorder (n=3), catatonic schizophrenia (n=1), schizopreniform disorder(n=2), psychotic disorder (n=1), persistent delusional disorder (n=1)	Sixteen single interviews no identification of where they took place.	Considered how patients perceived improvement.
England Kennedy and Horton	Phenomenology	325 (≈197 =♂) individuals with schizophrenia  217 (≈28 =♂) individuals who influenced/supported	Presentations targeting treatment groups made, unclear where interviews took place.	Focused on understanding illness and symptoms, the treatment involved and the provision of support.

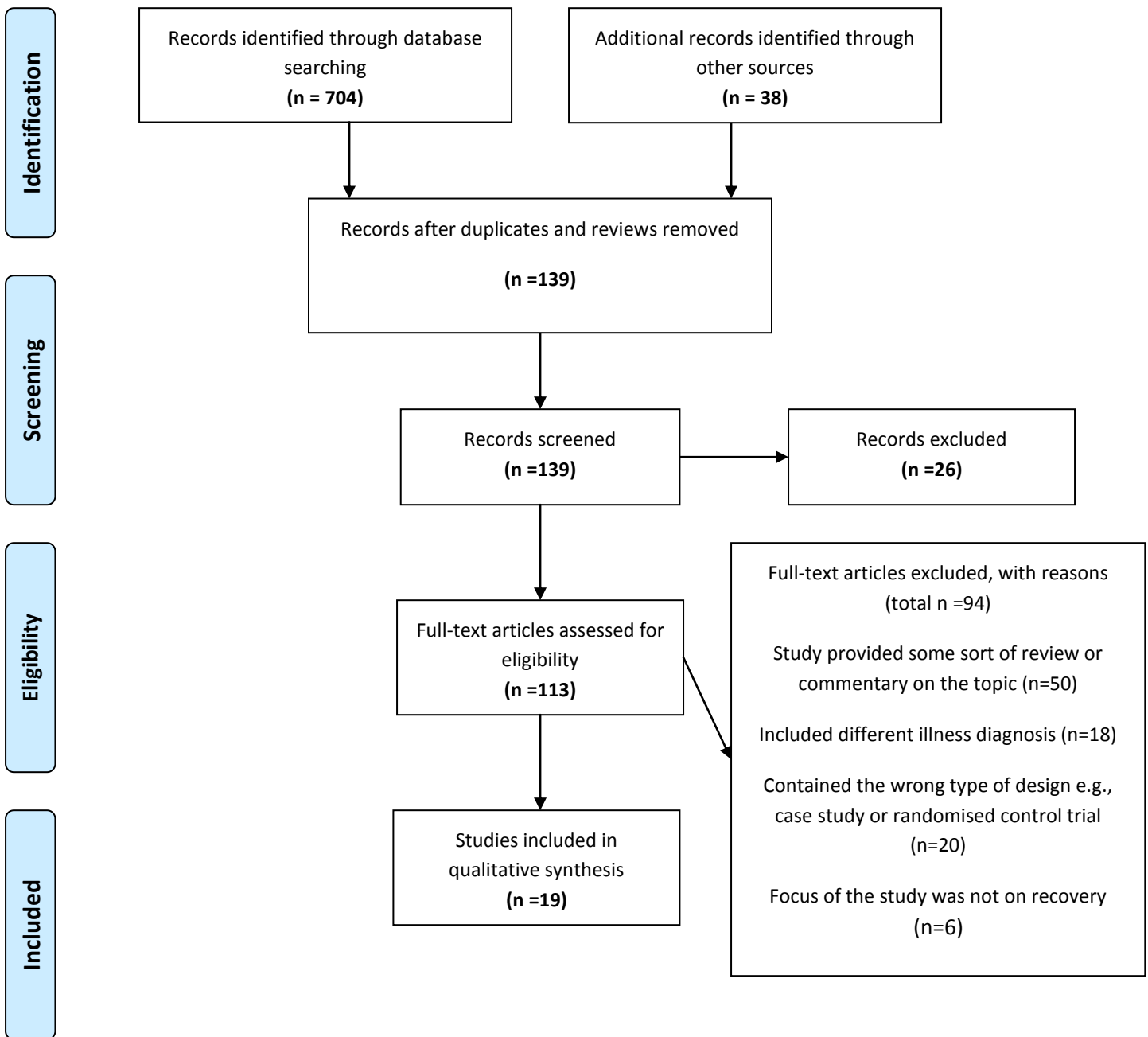
(2011)		them in recovery.		
Forchuk et al. (2003)	Naturalistic qualitative design	10 (7=♂) Inpatients and outpatients treated for a diagnosis of schizophrenia. (exact diagnosis of individuals not given) Age range 26-51	Semi-structured interviews took place in a tertiary care psychiatric hospital and general hospitals. Three interviews monthly following a new atypical neuroleptic medication, then at 9 and 12 months.	Considered the concept of recovery and identified hopes, fears, symptoms and support.
Jenkins and Carpenter-Song (2005)	Ethnographic observation	90 (49 =♂) DSM-IV diagnosis of schizophrenia (n=73) or schizoaffective disorder (n=17) 40.7±7.9 years	2 outpatient psychiatric clinics in a major metropolitan area in north-eastern U.S.	Focused on recovery expectations, relationships, support, stigma and quality of life.
Jenkins et al (2005)	Ethnographic observation	90 (49 =♂) DSM-IV diagnosis of schizophrenia (n=73) or schizoaffective disorder (n=17) 40.7±7.9 years	2 outpatient psychiatric clinics in a major metropolitan area in north-eastern U.S.	Considered the participants' living situation, experience of medication and treatment support, identity, stigma and expectations for recovery.
Kaewprom et al 2011	Phenomenology	24 psychiatric nurses (5 =♂) Mean 41.2 years 3-27 years' experience	1 psychiatric hospital in Thailand	Considered recovery and factors involved in recovery.
Lam et al (2010)	Focus groups - Phenomenology	6 (3=♂) Paranoid Schizophrenia (n=4), Acute and transient psychotic disorder (n=1) and unspecified psychosis (n=1). Mean age 25 years	Outpatient clinic of an early assessment service for young people with psychosis	Considered recovery and factors involved in recovery.
McCann and Clark (2004)	Phenomenology	9 (5=♂) adults with schizophrenia Identified as a 'young adult' No further details.	Unstructured interviews within a "relaxed and private environment"	Considered what it was like to be an adult living with schizophrenia.
Ng, et al (2008a)	Phenomenology	8 (4=♂) 6 with schizophrenia 2 with schizoaffective disorder 38.5±2.8 years	Focus groups took place at a rehabilitation centre. One focus group was undertaken.	Considered recovery and factors involved in recovery.
Ng et al (2008b)	Phenomenology	12 psychiatrists (7=♂) 6 (3=♂) Junior psychiatrist with <2 years' experience  6 (3=♂) Trainee psychiatrist with around 5-6 years clinical experience	Two focus groups taking place at unspecified location	Considered recovery and factors involved in recovery.
Ng et al (2011)	Grounded theory	5 (3=♂) fourth year medical students With 8 weeks of clerkship in psychiatry 12 (7=♂) trainee psychiatrist With an average of 3 years' experience	3 focus groups 1 with students and 2 with trainees.	Considered recovery and factors involved in recovery.
Noiseuxan	Grounded	16 (8=♂) individuals with schizophrenia	Semi-structured interviews and field notes used	Considered recovery and factors involved in recovery.

d Ricard (2008)	d theory	35 years 5 family members Mean age 46. 20 health care professionals 3 psychiatrist 8 nurses 9 educators		
Romano et al (2010)	Grounded theory	20 participants  10 (5=♂) participants with schizophrenia identified as primary candidates Mean age 23  10 individuals that influence recovery Parent (n=6) Boyfriend/girlfriend (n=1) Health care professionals (n=3)	10 primary candidates interviewed twice 10 secondary candidates who had influenced their recovery	Considered impact of illness and coping strategies that influenced recovery
Saavedra et al (2012)	Phenomenology	10 (3=♂) care givers On average worked for 7.4 years in care home for mental illness 39.8 years Note: 89% of individuals at care home had schizophrenia or schizophrenia related illness	In-depth interviews with 10 experienced carers	Interactions and meeting during rehabilitation.
Tweedell et al (2004)	Ethnography	9 families who had an individual who was diagnosed with schizophrenia were invited to take part. Age range 28-78 5 sets of parents (n=10) Widowed mother (n=1) Spouse (n=1) Siblings in law (n=4) Sisters (n=3) Brothers (n=4)	Series (n=5) of informal semi-structured interviews	Considered knowledge of medication, hopes and fears and troubling symptoms and support.

Table 2: The summary of results of the COREQ (Tong et al., 2007) appraisal for the 19 included studies.

Author/ Year of Publication	<i>Domain 1 (8)</i> Research Team & Reflexivity	Domain 2 (15) Study Design	<i>Domain 3 (9)</i> Analysis & Findings	Total (32)
Balaji et al (2012)	3	10	6	19
Corin and Lauzon 1994	4	7	3	14
Corin (1998)	4	7	3	14
Davidson et al 1997	8	10	3	21
Dilks et al 2010	7	11	6	24
Eisenstadt et al 2012	4	9	2	15
EnglandKennedy and Horton (2011)	2	6	6	14
Forchuk et al. (2003)	3	8	5	16
Jenkins and Carpenter-Song (2005)	5	13	2	20
Jenkins et al (2005)	5	13	5	23
Kaewprom et al 2011	4	8	5	17
Lam et al (2010)	4	7	4	15
McCann and Clark (2004)	2	6	5	13
Ng, et al (2008a)	5	8	5	18
Ng et al (2008b)	7	9	5	21
Ng et al (2011)	6	8	5	19
Noiseux and Ricard (2008)	5	11	4	20
Romano et al (2010)	8	13	7	28
Saavedra et al (2012)	3	10	6	19
Tweedel et al (2012)	3	12	6	21
<b>Mean</b>	<b>4.6</b>	<b>9.3</b>	<b>4.7</b>	<b>18.6</b>

## A PRISMA diagram for the study



From: Moher D, Liberati A, Tetzlaff J, Altman DG, The PRISMA Group (2009). Preferred Reporting Items for Systematic Reviews and Meta-Analyses: The PRISMA Statement. PLoS Med 6(6): e1000097. doi:10.1371/journal.pmed1000097

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